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- A. Differential Display Downstream Primer 7: (SEQ ID NO: 17)  
5'TTTTTTTTTTTGA3'
- B. Differential Display Upstream Primer 15: (SEQ ID NO: 18)  
5'GATCAATCGC3'
- C. 5'RACE Primer 2a: (SEQ ID NO: 19)  
5'TAGGACATGCACAGTGTAATCTG3'
- D. 5'RACE Primer 3a: (SEQ ID NO: 20)  
5'GATTGTGCTGGCCACTTCTC3'
- E. 5'RACE Primer 4a: (SEQ ID NO: 21)  
5'GACACTCCAGGGACTGAAG3'
- F. 5'RACE Anchor Primer: (SEQ ID NO: 22)  
5'CUACUACUACUAGGCCACGCGTCGACTAGTACGGGIIGGGIIGGGIIIG3'
- G. 5'RACE Universal Amplification Primer: (SEQ ID NO: 23)  
5'CUACUACUACUAGGCCACGCGTCGACTAGTAC3'
- H. 5'LPL Primer: (SEQ ID NO: 24)  
5' ACCACCATGGAGAGCAAAGCCCTG3'  
-start codon of human LPL coding sequence is underlined
- I. 3'LPL Primer: (SEQ ID NO: 25)  
5' CCAGTTTCAGCCTGACTTCTTATTC3'  
-complement to the termination codon of the LPL coding sequence is underlined
- J. Primer DLIP774: (SEQ ID NO: 26)  
5'GGCTGTGGACTCAACGATGTC3'
- K. Primer LLGgen2a: (SEQ ID NO: 27)  
5'CCGGGTGGGTAGGTACATTTTG3'
- L. Hllg-gspI<sup>r</sup> primer: 5' GGG GGT GAC TTC CAG CCA GGC TGT G 3'  
(nucleotides 772-796 in Fig. 4, SEQ ID NO: 28)
- Hllg-gsp2a primer: 5' AAC TCT GAA AGG CAT GCC TGC CCG G 3'  
(reverse complement of nucleotides 1053-1077 in Fig. 4, SEQ ID NO: 29)
- G3PDH 5' primer: 5' TGA AGG TCG GAG TCA ACG GAT TTG GT 3'  
(SEQ ID NO: 30)
- G3PDH 3' primer: 5' CAT GTG GGC CAT GAG GTC CAC CAC 3'  
(SEQ ID NO: 31)

FIGURE 1. PCR PRIMERS

GAATTCGGCTTCATCAATCGCTTCAAAAAGGGGATCTGTCTGAGCTGCCCAAGAACCGTTGTAAATAGCATTCGCTACAAATGCCAAGAAATGAGGAACAAGAGGAACCAAAATGTACCTAAAAACCCGGGCAG

EFGLINRFKKKGLCKLSCRKKNRCNSIGYNACKMKNRNSKNYLRKTRA  
GCCTTTCAGAGGTAACTTCAGTCCCTGGAGTGTCCCTGAGAGGCCCTTAATACCAATGCTGCAGAGCAGGGCACATCTAGCCCGAGAGAGTGGCCACCAATCCCAATCAAAATCGTTG

PFRCNLSLECPGRPLIPPSYHAAEQGTS.PRRSGQHNPJKSL  
TCAGATTACACTGTGTCATGTCCTAGGAAGGGAACTTTTACAAATATACAGTGTGGACCCCTCAAAAAAAAAGCCGAATTC

RLHCAACPRKGNLYKINSVDPSKKKSR I

FIGURE 2

GAATTCGGCTTCTACTACTAGSCCCAGCGCTGCGCTAGTACGGGGGGGGGGGGTCAAGAGTCTTGCCTCCCGCGGCTCAGGACGAGGSCAGATCTCGTTCTGGGCAAGCGGTTCACACTCGCTCC  
RIRLLLLLLGGHASSPSTGGGGGGVSESLPPPGSGSGRGQISFWGKPLTLAP  
CCGGGCTCGTGGCCCAAGTTTCATTTCCACTTCTCTGCTCCAGTCCCGCCAGCCCTTACCGCCGGGATCTACCGCCGGGATCTGGAAACACCAAGAGGTGGTTTTGTTTTTAAACTTCT  
PGSVPPSFHFPPSLPPVPVPLAEERVLPAAGJAGNTKRWF LFFFKTS  
GAGGGGTGTGGCGGCGAGGATGAGCAACTCGTTCCTCTGCTCTGTTCTGGAGCTCTGATTTGCTGCGGAGGCCCGTACCTTTTGTCCAGAGGGAGCGCTGGAAGATAAGCTCCACAACCCA  
Coding region: 5'RACE extension  
EGVWRGRHNSNSVPLLCFWSLCYCF AAGSPVPFGPEGRLEDKLHKP  
CTGAGGTCAAACCATCTGTAGGTTTAACCTCCGACCTCCAGGACCCAGAGCATGAAGATGCTACCTCTCGTCGGCCACAGCCACCCCTTAGAAGACTGCAGTTTCAACATGACAGCTTAAACCTTTT  
Coding region: 5'RACE extension  
OTEVKPSVRFNLRTSKDPPEHEGCYLSVGHSDPLEDCSFSFNMTAKTFF  
CGATGGCAGATAGCGGTATCTTTGAACACTGCTGCACAAACTGCTGACGCCCTGCACACAGAGAAAGACGCCAATGTAGTTGTGCTGGCTGCCCTGGCCACAGCTTTACACGGATCGCGT  
Coding region: 5'RACE extension  
GWTMSGIFENWLHLXKLVSA LHTREK D A N V V V D W L P L A H O L Y T D A V  
AGGTGGTGGACACAGCATTCAGGATGCTCGAGTGGCTGCAGGAGAGGACGATTTTCTCTCGGAATGTCCACTTGATCGGCTACAGCTCGAGGCGCAGTGGCCGGGTATGACGGCACTTCGTGAAG  
Coding region: 5'RACE extension  
RVVGHSAIARNL D W L Q E K D D F S L G N V H L I G Y S L G A H V A G Y A G N F V K  
GCCGAATCACAGGTTTGGATCTCCCGGCCCATGTTTGAAGGGCGGACATCCACAGAGGCTCTCTCCGACGATGCAGATTTGTGGATGTCTCCACACCTACAGCGTTCCTTCGGCTTGAGCATTTGGTAT  
Coding region: 5'RACE extension  
GRITGLDPA GPMFE GAD I H K R L S P D D A D F V D V L H T Y T R S F G L S I G I  
TGTGGCCCATTGACATCTACCCCAATGGGGTGACTTCCAGCCAGGCTGTGGACTCAACGATGTCTTGGCATCAATTGTCATATGGAACAATCACAGAGGTGGTAAATGTGACCATGAGCGAGCCGTCACCTC  
Coding region: 5'RACE extension  
VGHJD I Y P N G G D F Q P G C G L N D V L G S I A Y G T I T E V V K C E H E R A V H L  
TCTCTGGTGAATCAGACACGCCAGTTTGCCTTCAGTGCAGTCACTTCAATCGCTTCAAAAAGGGATCTGTGAGCTGCCGCAAGAACCGTTGTATAGCATTTGGCTACAAATGCCAAGAAATGAGGAACA  
Coding region: 5'RACE extension  
SLVNQDKPSFAFQCTDSNRFKKKGICLSCKNRCKNSIGYN AKKRN  
GCAATGTACTAAAAACCGGAGGATGCTTTACAGGTAACTTCAGTCCCTCGAGGTGTCAGCCGAATTC  
Coding region: 5'RACE extension  
SKHYLKTRAGNPFRRGNLQSL E C Q A E F  
1382

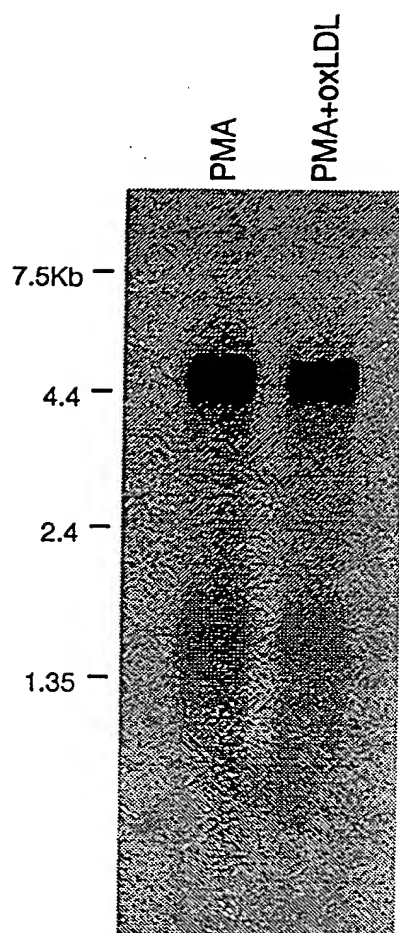
GAATTCGCGGCCGCGCTCGACGGCGGCTCAGGACGAGGGCAGATCTCGTTCTGGGGCAAGCCG  
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CTGCCTCCAGTCCCCCAGCCCCCTGGCCGAGAGAAAGGGTCTTACCGGCCGGGATTGCTGGAAA  
CACCAAGAGGTGGTTTTTGTTTTAAACTTCTGTTTCTTGGGAGGGGGTGTGGCGGGGCAGG  
ATGAGCAACTCCGTTCTCTGCTCTGTTTCTGGAGCCTCTGCTATTGCTTTGCTGCGGGGAGCC  
CCGTACCTTTTGGTCCAGAGGGACGGCTGGAAGATAAGCTCCACAAACCCAAAGCTACACAG  
ACTGAGGTCAAACCATCTGTGAGGTTTAACTCCGCACCTCCAAGGACCCAGAGCATGAAGG  
ATGCTACCTCTCGTCCGCCACAGCCAGCCCTTAGAAGACTGCAGTTTCAACATGACAGCTAA  
AACCTTTTTTCATCATTACGGATGGAAGATGAGCGGTATCTTTGAAAAGTGGCTGCACAACT  
CGTGTACGCCCTGCACACAAGAGAGAAAGACGCCAATGTAGTTGTGGTTGACTGGCTCCCCCT  
GGCCACACGCTTTACACGGATGCGGTCAATAATACCAGGGTGGTGGGACACAGCATTGCCA  
GGATGCTCGACTGGCTGCAGGAGAAGGACGATTTTCTCTCGGGAATGTCCACTTGATCGGCT  
ACAGCCTCGGAGCGCACGTGGCCGGGTATGCAGGCAACTCGTGAAAGGAACGGTGGGCCGA  
ATCACAGGTTTGGATCCTGCGGGGCCATGTTTGAAGGGGCCGACATCCACAAGAGGCTCTCT  
CCGGAAGATGCAGATTTTGTGGATGTCTCCACACCTACACGCGTTCTTCCGCTTGAGCATT  
GGTATTACAGATGCTGTGGGCCACATTGACATCTACCCCAATGGGGGTGACTTCCAGCCAGGC  
TGTGGACTCAACGATGTCTTGGGATCAATTGCATATGGAACAATCACAGAGGTGGTAAAATGT  
GAGCATGAGCGAGCCGTCCACCTCTTTGTGACTCTCTGGTGAATCAGGACAAGCCGAGTTTT  
GCCTTCCAGTGCACTGACTCCAATCGCTTCAAAAAGGGGATCTGTCTGAGCTGCCGCAAGAAC  
CGTTGTAATAGCATTGGCTACAATGCCAAGAAAATGAGGAACAAGAGGAACAGCAAAATGTA  
CTAAAAACCCGGGCAGGCATGCCTTTCAGAGTTTACCATTATCAGATGAAAATCCATGTCTT  
CAGTTACAAGAACATGGGAGAAATTGAGCCACCTTTTACGTCACCTTTATGGCACTAATGC  
AGATTCCCAGACTCTGCCACTGGAAATAGTGGAGCGGATCGAGCAGAATGCCACCAACA  
CCTTCTGTGCTACACCGAGGAGGACTTGGGAGACCTCTTGAAGATCCAGCTCACCTGGGAGG  
GGCCTCTCAGTCTTGGTACAACCTGTGGAAGGAGTTTTCGAGCTACCTGTCTCAACCCCGCA  
ACCCCGGACGGGAGCTGAATATCAGGCGCATCCGGGTGAAGTCTGGGGAAACCCAGCGGAAA  
CTGACATTTTGTACAGAAGACCTGAGAACACCAGCATATCCCCAGGCCGGGAGCTCTGGTTT  
CGCAAGTGTCCGGGATGGCTGGAGGATGAAAAACGAAACCAAGTCCCACTGTGGAGCTTCCC  
TGAGGGGTGCCCGGGCAAGTCTTGCCAGCAAGGCAGCAAGACTTCTGCTATCCAAGCCCCATG  
GAGGAAAGTTACTGCTGAGGACCCACCCAATGGAAGGATTCTTCTCAGCCTTGACCTGGAGC  
ACTGGGAACAACCTGGTCTCCTGTGATGGCTGGGACTCCTCGCGGGAGGGGACTGCGCTGCTAT  
AGCTCTTGCTGCCTCTCTTGAATAGCTCTAACTCCAAACCTCTGTCCACACCTCCAGAGCA  
CCAAGTCCAGATTTGTGTGTAAGCAGCTGGGTGCTTGGGGCCTCTCGTGCACACTGGATTGGT  
TTCTCAGTTGCTGGGCGAGCCTGTACTCTGCCTGACGAGGAACGCTGGCTCCGAAGAGGCCCT  
GTGTAGAAGGCTGTCAGCTGCTCAGCCTGCTTTGAGCCTCAGTGAGAAGTCTTCCGACAGGA  
GCTGACTCATGTCAGGATGGCAGGCCTGGTATCTTGCTCGGGCCCTGGCTGTTGGGGTTCTCAT  
GGGTTGCACTGACCATACTGCTTACGTCTTAGCCATTCCGTCCTGCTCCCCAGCTCACTCTCTG  
AAGCACACATCATTGGCTTTCTATTTTTCTGTTTCAATTTTTTAATTGAGCAAATGTCTATTGAAC  
ACTTAAAATTAATTAGAATGTGGTAATGGACATATTACTGAGCCTCTCCATTTGGAACCCAGTG  
GAGTTGGGATTCTAGACCCTCTTTCTGTTTGGATGGTGTATGTGTATATGCATGGGGAAAGGC  
ACCTGGGGCCTGGGGGAGGCTATAGGATATAAGCAGTCGACGCGGCCGCGCAATTC

FIGURE 4

MSNSVPLLCFWSLCYCFAAGSPVPFGPEGRLEDKLHKPKATQTEVKPSVRFNLRTSKDPEHEGCV  
LSVGHSQPLEDCSFNMTAKTFFIIHGWTMSGIFENWLHKLVSALHTREKDANVVVVDWLPLAHQL  
YIDAVNNTRVVGHSIARMLDWLQEKDDFSLGNVHLIGYSLGAHVAGYAGNFVKGTVGRITGLDP  
AGPMFEGADIIHKRLSPDDADFVDVLHTYTRSFGLSIGIQMPVGHIDIYPNGGDFQPGCGLNDVLGSI  
AYGTTTEVVKCEHERAVHLFVDSL VNQDKPSFAFQCTDSNRFFKKGICLS CRKNRCNSIGYNAKKM  
RNKRNSKMYLKTRAGMPFRVYHYQMKIHVFSYKNMGEIEPIFYVILYGTNADSQTLPLEIVERIE  
QNATNTFLVYTEEDLGDLLKIQLTWEGASQSWYNLWKEFRSYLSQPRNPGRELNIRIRVKSGETQ  
RKLTFC TEDPENTSI SPGRELWFRKCRDGWRMKNETSPTVELP

FIGURE 5

[illegible]



**FIGURE 7.** Northern analysis of mRNA from THP-1 cells. Cells were stimulated with either PMA or PMA and oxidized LDL (PMA +oxLDL). Numbers to left indicate positions of RNA standards (in kilobases).



669600-101200

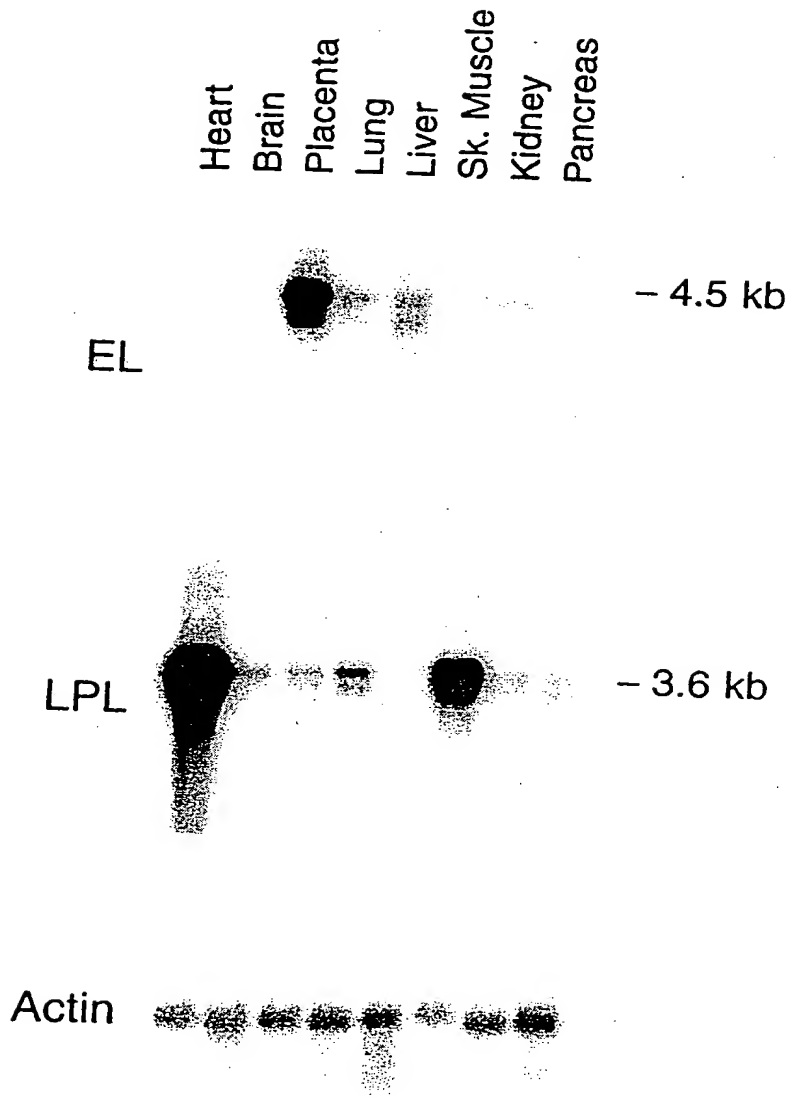


FIGURE 8:

1 2 3 4 5 6 7 8 9 10 11 12

4.5kb

3.6kb

FIGURE 9:

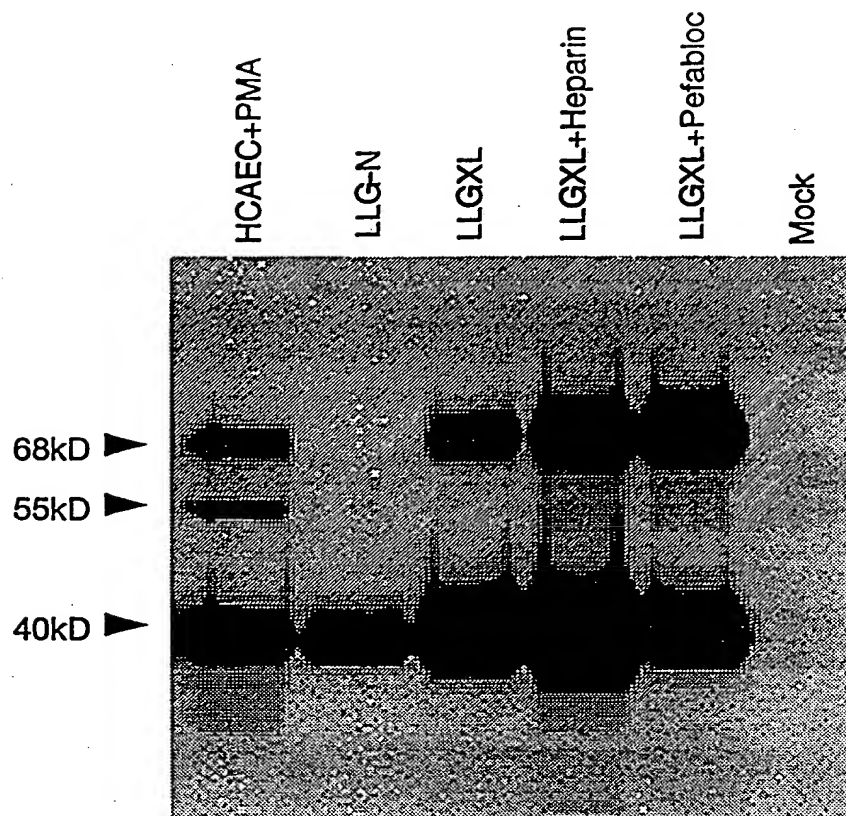
CTECRLDKLHKATC

MSNSVPLLCFWSLCYCFAAGSPVPPGPEGRLDKLHKPKATQTEVKPSVRFNLRRTSKDPEHEGCYL  
SVGHSQPLEDCSFNMTAKTFFIIHGWTMSGIFENWLHKLVSALHTREKDANVVVDWLPLAHQLY  
TDAVNNTRVVGHSIARMLDWLQEKDDFSLGNVHLIGYSLGAHVAGYAGNFVKGTVGRITGLDPA  
GPMFEGADIIHKRLSPDDADFVDVLHTYTRSFGLSIGIQMPVGHIDIYPNGGDFQPGCGLNDVLGSIA  
YGTITEVVKCEHERAVHLFVDSL VNQDKPSFAFQCTDSNRFFKGICLSCKNRNCSIGYNACKMR  
NKRNSKMYLKTRAGMPFRVYHYQMKIHVSFYKNMGEIPTFYVTLYGTNADSQTLPLEIVERIEQ  
NATNTFLVYTEEDLGDLLKIQLTWE GASQSWYNLWKEFRSYLSQPRNPGRELNIRRIRVKSGETQR  
KLTFC TEDPENT SISPGRELWFRKCRDGWRMKNETSPTVELP

**FIGURE 10.** Relation of the immunizing peptide used for the generation of antisera with the LLGXL protein sequence. The peptide is shown in the shaded box. The terminal cysteine was introduced to aid coupling of the peptide to carrier protein.

SDS-PAGE gel showing protein expression in five lanes. Molecular weight markers are indicated on the left at 97, 66, 46, and 30 kDa. Lane 1 is empty. Lane 2 shows a band at ~66 kDa and a band at ~40 kDa. Lane 3 shows a band at ~66 kDa and a band at ~40 kDa. Lane 4 is empty. Lane 5 shows a band at ~66 kDa, a band at ~46 kDa, and a band at ~40 kDa.

FIGURE 11:



**FIGURE 12.** Western analysis of heparin-sepharose bound proteins in conditioned medium from transfected COS-7 cells. Cells were transiently transfected with either expression vectors containing cDNA of LLGN or LLGXL cDNA or no DNA (Mock). Proteins from PMA-stimulated endothelial cells (HCAEC+PMA) were included for size reference. Numbers to the left indicate the apparent molecular weight of the major immunoreactive proteins relative to protein standards.

10 20 30 40  
1 T T G G G A T C A A T T G C A T A T G G A A C A A T C A C A G A G G T G G T A A  
1 C T G G G A T C C A T C G C C T A T G G C A C G A T C G C G A G G T G G T G A  
LLG7742A  
RLLG.SEQ

50 60 70 80  
41 A A T G T G A G C A T G A G C G A G C C G T C C A C C T C T T T G T T G A C T C  
41 A G T G C G A G C A T G A G C G G G C C G T G C A T C T C T T T G T G G A C T C  
LLG7742A  
RLLG.SEQ

90 100 110 120  
81 T C T G G T G A A T C A G G A C A A G C C G A G T T T T G C C T T C C A G T G C  
81 C C T G G T G A A C C A G G A C A A G C C G A G C T T T T G C C T T C C A G T G C  
LLG7742A  
RLLG.SEQ

130 140 150 160  
121 A C T G A C T C C A A T C G C T T C A A A A A G G G G A T C T G T C T G A G C T  
121 A C A S A C T C C A A C C G C T T C A A A A A A G G G A T C T G T C T C A G C T  
LLG7742A  
RLLG.SEQ

170 180 190 200  
161 G C C G C A A G A A C C G T T G T A A T A G C A T T G G C T A C A A T G C C A A  
161 G C C G G A A G A A C C G C T G T A A C G G C A T C G G C T A C A A T G C T A A  
LLG7742A  
RLLG.SEQ

210 220  
201 G A A A A T G A G G A A C A A G A G G A A C A G C  
201 G A A G A C G A G G A A T A A G A G G A A C A C C  
LLG7742A  
RLLG.SEQ

**FIGURE 13:**

# EL Triglyceride and Phospholipase Activities

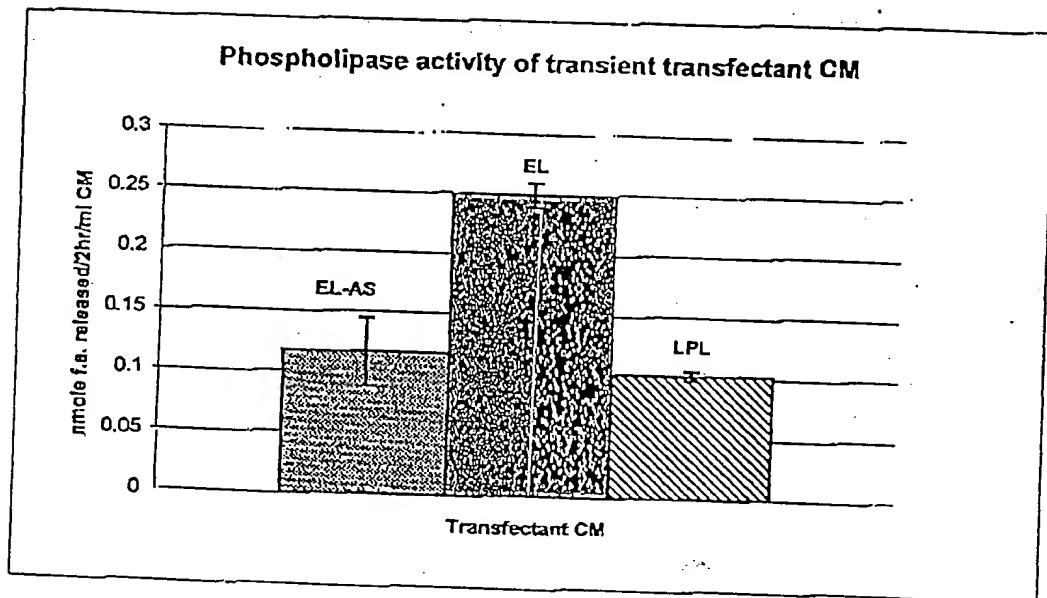


FIGURE 14:

# EL Triglyceride and Phospholipase Activities

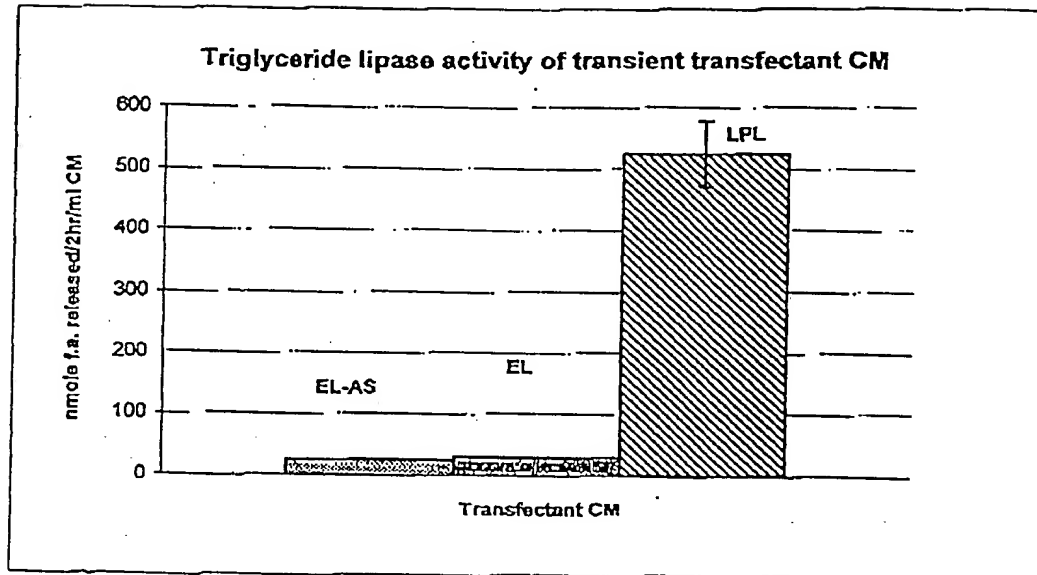
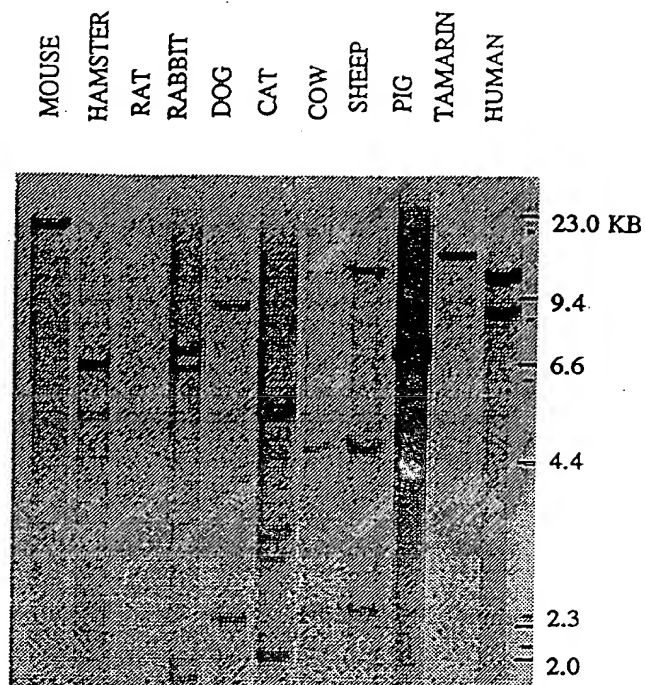


FIGURE 15:



005220-1042260

LLG



LpL

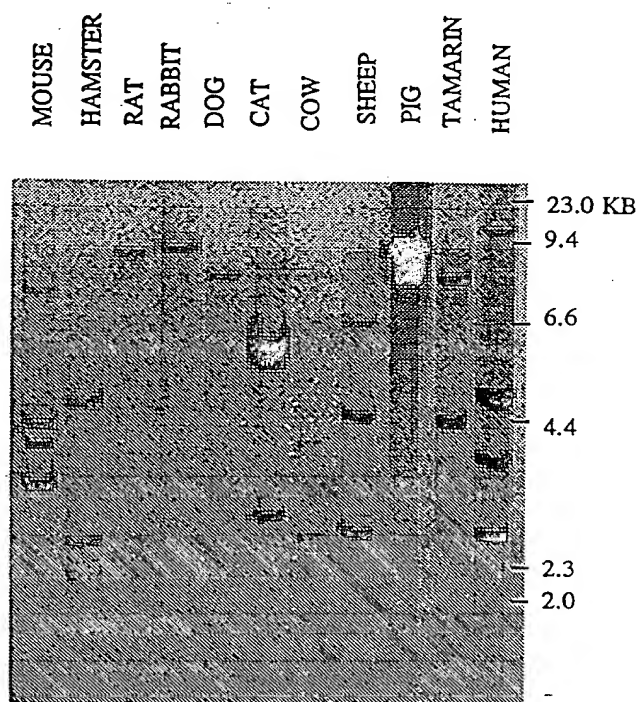


FIGURE 16: Southern blot of LLG and LpL genes in a variety of mammalian species.

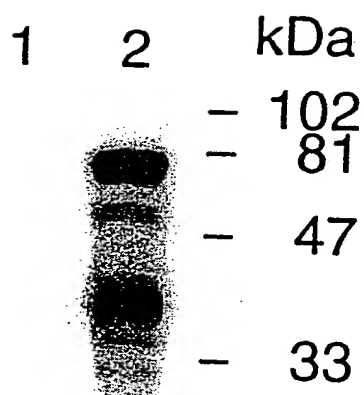


FIGURE 17:

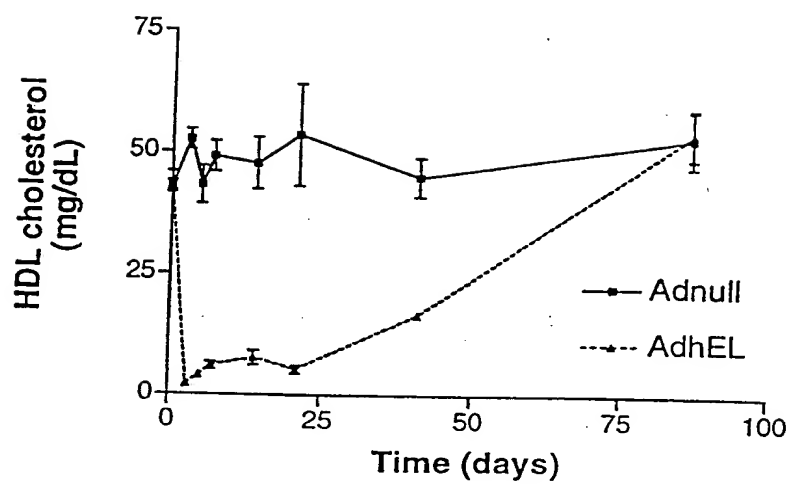
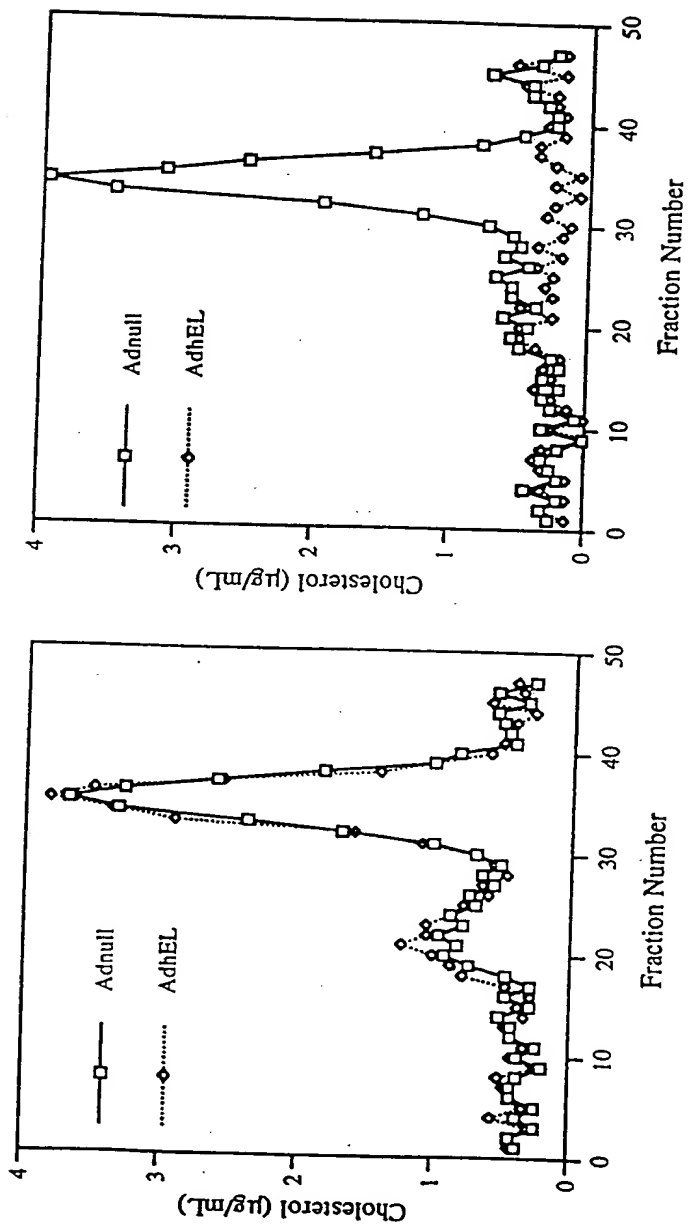


FIGURE 18:

FIGURE 19:



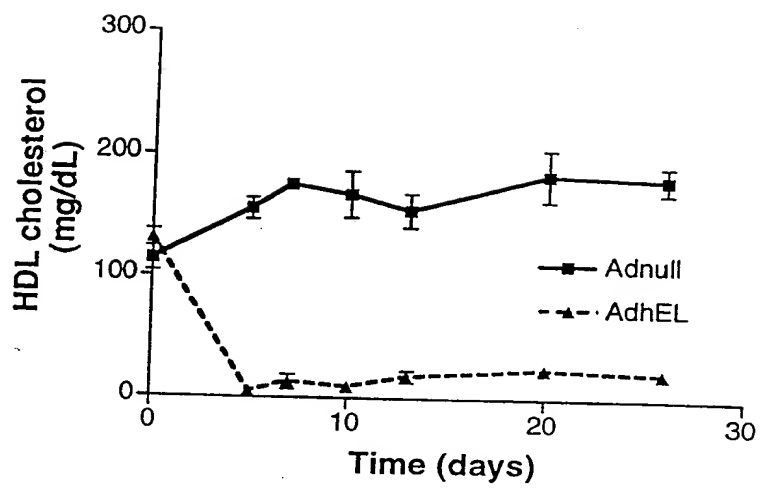


FIGURE 20:

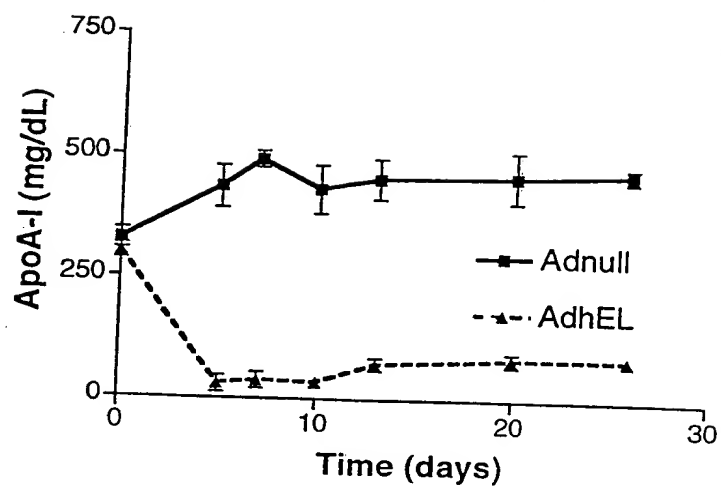


FIGURE 21:

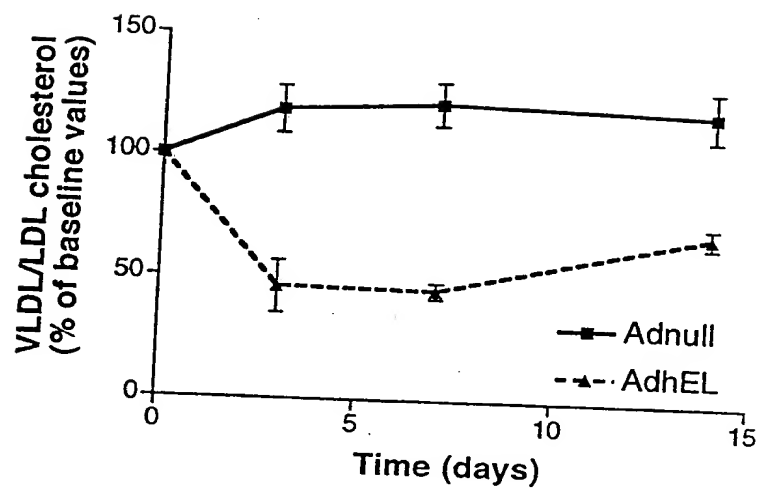


FIGURE 22:

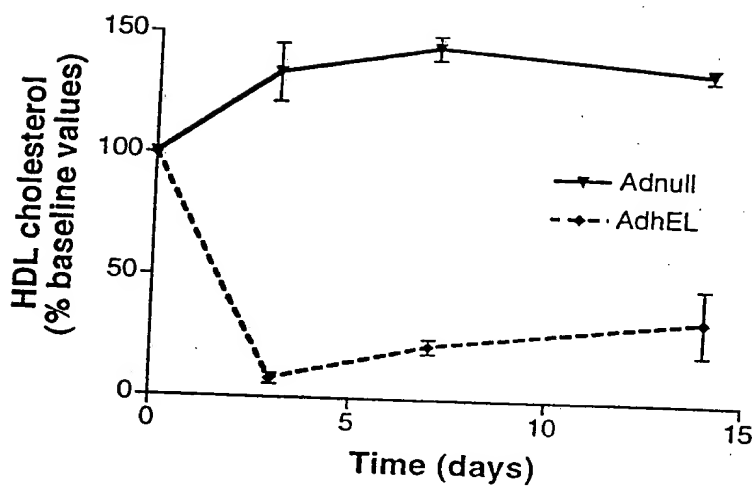


FIGURE 23: